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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/657,127 | 09/09/2003 | Yasutomo Goto | 8015-1022 | 9212 |

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EXAMINER

SAINT SURIN, JACQUES M

ART UNIT PAPER NUMBER

2856

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/657,127

Applicant(s)

GOTO, YASUTOMO

Examiner

Jacques M Saint-Surin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2003.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-5 and 7-9 is/are rejected.
7) ☒ Claim(s) 6 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 09 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Horvath (US Patent 6,076,411).

Regarding claims 1 and 7, Horvath discloses a brittleness rating method of rating brittleness of a coating substance for an intended use comprising the steps of:

causing a test film piece (suitable conductor insulation material 14, see: col. 7, line 43) formed by laminating a support with a coating substance (cable jacket 16, see: Fig. 1) to produce deformation (as shown in FIG. 2, eight (8) cable samples were tested to detect and measure cable insulation voids, see: col. 7, lines 54-55;

detecting acoustic emissions that said coating substance produces resulting from said deformation of said test film piece (the transducer 202 converts the electrical signals from the signal transmitter 202a to acoustic signals, and converts reflected acoustic signals to electrical signals, see: col. 19, lines 32-35); and

rating brittleness of said coating substance on the basis of an outcome of said detection of acoustic emissions (the reflected signals are then sent by the transducer 202 to the amplifier/discriminator 202c which boosts the received signals and screens them to minimize noise and optimize the desired signal characteristics (for example,

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the amplifier/discriminator 202c discriminates the signals to view only the reflections indicative of the control setting depth range that correspond to a window of reflected time for each transmitted pulse, see: col. 19, lines 35-45). Regarding claim 7, as discussed above, it is rejected for the reasons set forth for claim 1.

Regarding claims 2-3 and 8-9 Horvath discloses conventional ultrasound techniques are normally used to detect voids in metallic and composite materials; the ultrasonic energy travels into the test material from the outer surface thereof via a coupling medium, see: col. 8, lines 61-64. Each mechanism requires a high stress to provide the energy needed to activate the damage mechanism. These mechanisms include thermal decomposition (resulting from insulation service temperatures), mechanically-induced internal residual stresses, breakdown resulting from charge accumulation at void sites (analogous to mechanical creep) and the presence of small voids or flaws inside the dielectric, see: col. 7, lines 18-28. Fig. 5 shows the compressive means. Furthermore, Horvath discloses ultrasound waves have the following characteristics: (1) they travel long distances in solid materials; (2) they travel in well-defined sonic beams; (3) their velocity is constant in homogeneous materials, see: col. 8, lines 30-33.

Regarding claim 4, Horvath shows in Fig. 23 transducer 202 which is attached to electric cable.

Regarding claim 5, Horvath discloses the ultrasound waves are reflected at interfaces where elastic and physical properties change and are also refracted when elastic properties change; and (6) they may change their mode of vibration or be subject to mode conversion at material interfaces, see: col. 8, lines 35-39.

Allowable Subject Matter

3. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Martin (US Patent 6,311,538) discloses a test piece for inspection penetrant performance assessment and comparison.

Aspden et al. (US Patent 5,260,024) discloses a test specimen for evaluating crack propagation due to corrosion.

Vicki et al. (US Patent 4,610,157) discloses a surface penetrant inspection test piece having varying thickness plating.

Alburger (US Patent 3,791,198) discloses a testing panel for inspection having cracks of controlled depth and width.

Ellis (US Patent 2,186,014) discloses a method of detecting flaws in rigid material.

Claytor et al. (US Patent 4,696,191) discloses an apparatus and method for void/particulate detection.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques M Saint-Surin whose telephone number is (571) 272-2206. The examiner can normally be reached on Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (703) 305-4705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jacques M. Saint-Surin
February 22, 2004



HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
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